U.S. Pat. Appl. Ser. No. 10/578,971 Attorney Docket No. 10191/4621 Reply to Final Office Action of April 1, 2008

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 to 10. (Canceled).

11. (Currently Amended) A simulation system for computer-implemented simulation and verification of a control system under development, the control system comprising a target hardware and application software running on the target hardware, the simulation system comprising:

hardware implementing a generic model animation interface passing data from the target hardware to a modeling tool for animating a model of the control system and an inmodel calibration interface passing data from the modeling tool to the application software, the model animation interface and the in-model calibration interface using measurement and calibration technologies in a host-target architecture, to communicate with a standard measurement and calibration interface on the target hardware thereby forming a link between the application software on the target hardware and a host of the host-target architecture.

- (Previously Presented) The system according to claim 11, further comprising a target server adapted to connect the modeling tool with the target hardware.
- 13. (Previously Presented) The system according to claim 12, wherein the target server includes a protocol driver of a communication protocol adapted for communication with the target.
- 14. (Previously Presented) The system according to claim 11, further comprising a plurality of simulation processes with corresponding memory and interface modules, the modules including distinct memory locations adapted for inter-module communication.
- 15. (Previously Presented) The system according to claim 14, wherein simulation is performed by execution of a control system simulation model, the simulation model including a plurality of sub-models each being performed on one of the plurality of modules respectively.

U.S. Pat. Appl. Ser. No. 10/578,971 Attorney Docket No. 10191/4621 Reply to Final Office Action of April 1, 2008

- 16. (Previously Presented) The system according to claim 14, wherein at least some of the modules are dynamically reconfigurable for communication via distinct memory locations.
- 17. (Currently Amended) A host of a simulation system for computer-implemented simulation and verification of a control system under development, the control system comprising a target hardware and application software running on the target hardware, the host comprising:

hardware implementing implementing a generic model animation interface passing data from the target hardware to a modeling tool for animating a model of the control system and an in-model calibration interface passing data from the modeling tool to the application software, the model animation interface and the in-model calibration interface using measurement and calibration technologies in a host-target architecture, to communicate with a standard measurement and calibration interface on the target hardware forming a link between the application software on the target hardware and a host of the host-target architecture, the host including at least one respective modeling tool and a target server adapted to connect the modeling tool with the target hardware.

18. (Currently Amended) A method, comprising:

simulating and verifying a control system under development, the control system comprising a target hardware and application software running on the target hardware, the simulating and verifying performed by a simulation system including a generic model animation interface passing data from the target hardware to a modeling tool for animating a model of the control system and an in-model calibration interface passing data from the modeling tool to the application software, the model animation interface and the in-model calibration interface using measurement and calibration technologies in a host-target architecture, to communicate with a <u>standard</u> measurement and calibration interface on the target hardware forming a link between the application software on the target hardware and a host of the host-target architecture, the host including at least one respective modeling tool and a target server adapted to connect the modeling tool with the target hardware.

U.S. Pat. Appl. Ser. No. 10/578,971 Attorney Docket No. 10191/4621 Reply to Final Office Action of April 1, 2008

19. (Currently Amended) A computer-readable storage medium including a set of instructions executable by a processor, the set of instructions, when executed, causing the processor to perform a method of simulating and verifying a control system under development, the method comprising:

simulating and verifying a control system under development by a simulation system; wherein:

the control system comprises a target hardware and application software running on the target hardware; and

the simulation system includes a generic model animation interface passing data during the simulating and verifying from the target hardware to a modeling tool for animating a model of the control system and an in-model calibration interface passing data during the simulating and verifying from the modeling tool to the application software, the model animation interface and the in-model calibration interface using measurement and calibration technologies in a host-target architecture, to communicate with a <u>standard</u> measurement and calibration interface on the target hardware forming a link between the application software on the target hardware and a host of the host-target architecture, the host including at least one respective modeling tool and a target server adapted to connect the modeling tool with the target hardware.